

Reducing our carbon footprint and resource use on the Exeter Kidney Unit

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INTRODUCTION AND RELEVANCE

The diverse and severe effects of climate change have far reaching consequences for global health¹.

The delivery of healthcare also results in carbon emissions.

Data published in 2018 shows that the NHS is the largest public sector contributor of carbon emissions, contributing to over one third of public sector emissions ².

The Climate Change Act calls for an 80% reduction in carbon emissions by 2050 ².

Only 17% of NHS emissions are derived from energy usage which has been the main focus of carbon-reduction policies to date².

The NHS will only reach its targets by considering all aspects of practice, including clinical service design.

As workers within the NHS it is all our responsibility to innovate ways to become more environmentally sustainable.

The Centre for Sustainable Healthcare (CSH) is a registered charity that aims to help the NHS fulfil its objective to reduce carbon emissions and resource use³.



CHRONIC KIDNEY DISEASE AND EXETER KIDNEY UNIT

Chronic kidney disease affects 10% of the worldwide population and over 2 million people are dependent on dialysis or a kidney transplant to stay alive ⁴.

Greater than 80% patients who receive treatment for kidney failure live in affluent countries with universal access to healthcare ⁴.

In the UK renal medicine was amongst the first medical specialties to measure its environmental impacts with the ‘Green Nephrology’ Network.

The Exeter Kidney Unit serves a population of one million with five satellite dialysis units. We undertook a multi-disciplinary team project to make changes towards greater environmental sustainability in our unit.

METHODS

With the CSH we undertook a multi-disciplinary team (MDT) QIP making changes towards greater environmental sustainability.

We did this by;

- Reducing duplication in disinfection cycles across 24 machines by only running the ‘Hot-C-Cart’ cycle at the end of the day (that includes disinfection) rather than a disinfection cycle and a ‘Hot-C-Cart’ cycle. This reduces the disinfection cycles that run each day by one quarter.
- Replace 12 existing machines (Gambro) with new machines (Nipro) that can be switched to a ‘standby’ mode following priming to save on water used.
- Patients were asked to bring their own blankets that can be stored in the unit between visits, saving on emissions and resource use incurred by hospital laundry.
- Expanding home haemodialysis numbers results in a reduction in water usage per cycle and the potential for packaging to be recycled by the council in domestic recycling.
- Thirty staff pledged to ‘Meat Free Monday’



RESULTS

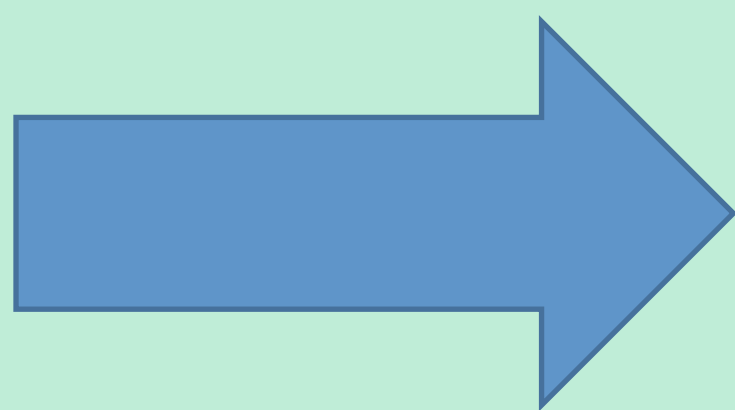
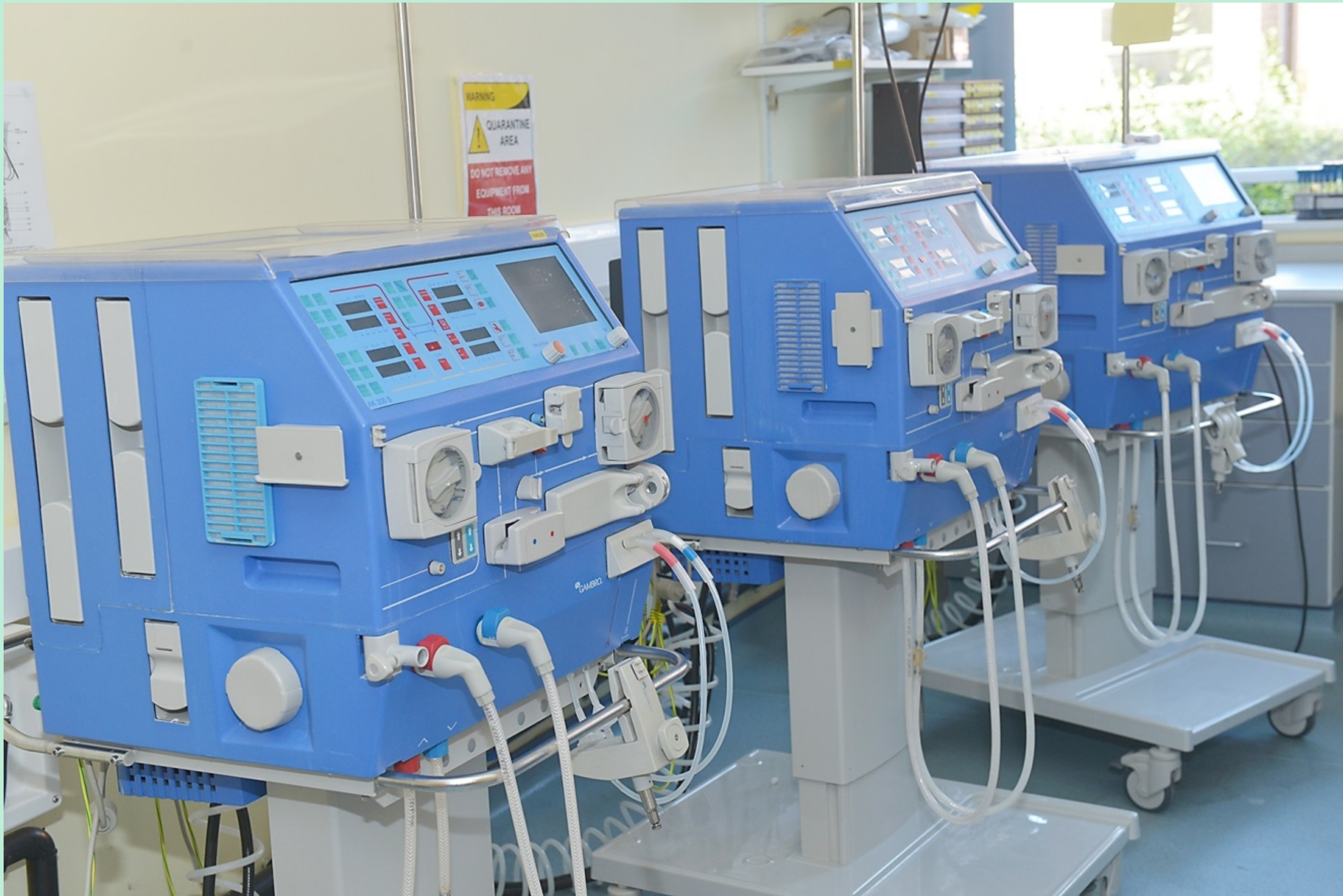
The CSH calculated the environmental impact and financial savings of implementing the QIP on one unit over one year using data provided from our Renal Unit and the Department of Environment, Food and Rural Affairs

The potential carbon footprint reduction was 7161.63 KgCO₂e, potential water savings were 258,336 litres and financial savings were calculated as £8263.45. These figures are based on one unit over one year.

CONCLUSION AND FUTURE RECOMMENDATIONS

The NHS has a significant challenge in transforming clinical services to reduce carbon emissions. As NHS staff we are responsible for improving the quality of our services including introducing changes to practice to be more environmentally sustainable and protect the health of current and future generations.

We plan to roll out the changes to all satellite units.



References

1) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health_Effects_of_Climate_Change_in_the_UK_2012_V13_with_cover_accessible.pdf

2) <https://digital.nhs.uk/data-and-information/national-indicator-library/carbon-dioxide-equivalent-emissions-for-nhs-trusts>

3) <https://sustainablehealthcare.org.uk/who-we-are>

4) <https://kidney.org.uk/>